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Advanced Mathematical Methods in Science and Engineering, Second Edition Jul 25 2019 Classroom-tested, Advanced Mathematical Methods in Science and Engineering, Second Edition presents methods of applied mathematics that are particularly suited to address physical problems in science and engineering. Numerous examples illustrate the various methods of solution and answers to the end-of-chapter problems are included at the back of the book. After introducing integration and solution methods of ordinary differential equations (ODEs), the book presents Bessel and Legendre functions as well as the derivation and methods of solution of linear boundary value problems for physical systems in one spatial dimension governed by ODEs. It also covers complex variables, calculus, and integrals; linear partial differential equations (PDEs) in classical physics and engineering; the derivation of integral transforms; Green's functions for ODEs and PDEs; asymptotic methods for evaluating integrals; and the asymptotic solution of ODEs. New to this edition, the final chapter offers an extensive treatment of numerical methods for solving non-linear equations, finite difference differentiation

and integration, initial value and boundary value ODEs, and PDEs in mathematical physics. Chapters that cover boundary value problems and PDEs contain derivations of the governing differential equations in many fields of applied physics and engineering, such as wave mechanics, acoustics, heat flow in solids, diffusion of liquids and gases, and fluid flow. An update of a bestseller, this second edition continues to give students the strong foundation needed to apply mathematical techniques to the physical phenomena encountered in scientific and engineering applications.

Advanced R, Second Edition Sep 26 2019 Advanced R helps you understand how R works at a fundamental level. It is designed for R programmers who want to deepen their understanding of the language, and programmers experienced in other languages who want to understand what makes R different and special. This book will teach you the foundations of R; three fundamental programming paradigms (functional, object-oriented, and metaprogramming); and powerful techniques for debugging and optimising your code. By reading this book, you will learn: The difference between an object and its name, and why the distinction is important The important vector data structures, how they fit together, and how you can pull them apart using subsetting The fine details of functions and environments The condition system, which powers messages, warnings, and errors The powerful functional programming paradigm, which can replace many for loops The three most important OO systems: S3, S4, and R6 The tidy eval toolkit for metaprogramming, which allows you to manipulate code and control evaluation Effective debugging techniques that you can deploy, regardless of how your code is run How to find and remove performance bottlenecks The second edition is a comprehensive update: New foundational chapters: "Names and values," "Control flow," and "Conditions" comprehensive coverage of object oriented programming with chapters on S3, S4, R6, and how to choose between them Much deeper coverage of metaprogramming, including the new tidy evaluation framework use of new package like rlang (<http://rlang.r-lib.org>), which provides a clean interface to low-level operations, and purrr (<http://purrr.tidyverse.org/>) for functional programming Use of color in code chunks and figures Hadley Wickham is Chief Scientist at RStudio, an Adjunct Professor at Stanford University and the University of Auckland, and a member of the R Foundation. He is the lead developer of the tidyverse, a collection of R packages, including ggplot2 and dplyr, designed to support data science. He is also the author of R for Data Science (with Garrett Grolemund), R Packages, and ggplot2: Elegant Graphics for Data Analysis.

Advanced Batteries May 15 2021 Storage and conversion are critical components of important energy-related technologies. "Advanced Batteries: Materials Science Aspects" employs materials science concepts and tools to describe the critical features that control the behavior of advanced electrochemical storage systems. This volume focuses on the basic phenomena that determine the properties of the components, i.e. electrodes and electrolytes, of advanced systems, as well as experimental methods used to study their critical parameters. This unique materials science approach utilizes concepts and methodologies different from those typical in electrochemical texts, offering a fresh, fundamental and tutorial perspective of advanced battery systems. Graduate students, scientists and

engineers interested in electrochemical energy storage and conversion will find "Advanced Batteries: Materials Science Aspects" a valuable reference.

Advanced Arduino Techniques in Science Aug 25 2019 If you're already a comfortable programmer, familiar with your single board computer and microcontroller, and are ready to refine your projects, then let's get started! This book covers advanced methods and techniques for creating, implementing, monitoring and controlling your experiments and projects with your Raspberry Pi and Arduino. Projects will use Python and the Tkinter GUI and will also cover software development for adding real time data display to the Raspberry Pi. You'll review concepts of frequency occurring in nature and the techniques used to measure the frequency of electrically varying signal voltages. You'll also study procedures for safe design, implementation and operation of experimental measurement systems operating at high heats and high temperatures. Throughout the book you'll look at sources and types of errors, and best practices for minimizing and reducing them. Often times there are simple environmental issues hindering what would seem to be simple projects: high temperatures, controlling the power for elevated temperature with the proportional integral and derivative (PID) algorithm, and the limitations imposed by eightbit code, the influence of noise and errors in measured data, and many more. Advanced Arduino Techniques in Science provides the best tools to move past those restrictions. What You'll Learn Implement an experimental control system and graphical data display for the Raspberry Pi and Arduino Manage experimental control with PID algorithm implementation, tuning and limitations imposed by eight bit digital signals Build an analytical front end Examine data smoothing capability of the Kalman filter Explore available methods for measuring both high and low frequency values in electronic signals Who This Book Is For Educators, researchers, students, makers, citizen scientists, or hobbyists can all extend their measuring capability or improve upon the quality of their collected data. The book is directed to those with intermediate skills in programming and those who are comfortable with Python programming and Arduino C.

Advanced and Emerging Polybenzoxazine Science and Technology Jul 29 2022 Advanced and Emerging Polybenzoxazine Science and Technology introduces advanced topics of benzoxazine resins and polybenzoxazines as presented through the collaboration of leading experts in the benzoxazine community, representing the authoritative introduction to the subjects. Broad topics covered include the recent development and improved understanding of the subjects, including low temperature cure, aerogels and carbon aerogels, smart chemistry in fire retarding materials and coatings, metal containing benzoxazines, rational design of advanced properties, and materials from natural renew. In the past twenty years, the number of papers on polybenzoxazine has continuously increased at an exponential rate. During the past three years, the number of papers published is more than the previous 17 years combined. The material is now part of only a few successfully commercialized polymers in the past 35 years. Therefore, interest in this material in both academia and industry is very strong. Includes the latest advancements in benzoxazine chemistry Describes advanced materials, such as aerogels, carbons, smart coatings, nanofibers, and shape memory materials

Includes additional characterization data and techniques, such as FT-IR, Raman, NMR, DSC, and TGA analyses

Advanced R Aug 18 2021 An Essential Reference for Intermediate and Advanced R Programmers **Advanced R** presents useful tools and techniques for attacking many types of R programming problems, helping you avoid mistakes and dead ends. With more than ten years of experience programming in R, the author illustrates the elegance, beauty, and flexibility at the heart of R. The book develops the necessary skills to produce quality code that can be used in a variety of circumstances. You will learn: The fundamentals of R, including standard data types and functions Functional programming as a useful framework for solving wide classes of problems The positives and negatives of metaprogramming How to write fast, memory-efficient code This book not only helps current R users become R programmers but also shows existing programmers what's special about R. Intermediate R programmers can dive deeper into R and learn new strategies for solving diverse problems while programmers from other languages can learn the details of R and understand why R works the way it does.

Multidisciplinary Science and Advanced Technologies Jun 27 2022 Capacitive pressure sensor based in chewing gum composites quarts filler / Fabiola da S. Maranhão.

Principles of Polymers Aug 06 2020 This book has been written in a concise manner to include all fundamental aspects of polymer science including recent inventions in polymerisation's and polymers. It covers atom transfer radical polymerisation (ATRP), reversible addition-fragmentation chain transfer (RAFT), nitroxide-mediated polymerisation (NMP), click chemistry as well as stereopolymerisation, ring opening metathesis polymerisation (ROMP), group transfer polymerisation (GTP), plasma polymerisation etc. in addition to the usual polymerisation mechanisms such as radical, ionic and step polymerisations. It also includes new developments of polymer science which are considered as hot topics of functional polymers like smart or intelligent polymers, light emitting polymers, conducting polymers, magnetic polymers, optically active and/or chiral polymers, liquid crystalline polymers, self-healing polymers, polymers for biomedical applications, dendrimers and/or dendritic polymers and polymer nanocomposites etc.

Primary Care Nov 08 2020 The premier reference for APNs providing primary care! Written by nurse practitioners for nurse practitioners in collaboration with a physician, this popular text builds a solid understanding of the theoretical foundation of nursing practice, while also providing comprehensive patient-care guidance based on the latest scientific evidence.

Applied Developmental Science Aug 30 2022 This affordable paperback course textbook has been adapted from the landmark four-volume *Handbook of Applied Developmental Science* (SAGE 2003). In 20 chapters, *Applied Developmental Science: An Advanced Textbook* brings together the latest in theory and application from applied developmental science and the positive psychology movement. This advanced text summarizes and synthesizes the best scientific knowledge from ADS to help readers understand the efforts being made around the world to ensure that all children and adolescents develop into healthy adults who contribute positively

to society.

Developmental Psychology Nov 01 2022 The fourth edition of Developmental Psychology: *illuminates substantive phenomena in development; *applies to the entire life span; *has relevance to everyday life; and *is comprehensively revised and updated. This textbook has been updated from the third edition to include the current status of scholarly efforts in all aspects of developmental psychology. Its purposes are to furnish inclusive developmental perspectives on major substantive areas in psychology and the substantial differences that underscore the dynamic and exciting status of contemporary developmental psychology. Developmental psychology is a major subdiscipline in its own right, with its own history and systems, perspectives, and methodologies. These perspectives, traditions, and approaches are thoroughly introduced and reviewed. In addition, many aspects of developmental psychology have obvious and immediate relevance to real-world issues and problems. Each chapter in this book exemplifies the relevance of developmental psychology through reviews of the history, theory, and substance of the subdiscipline.

Advanced Data Science and Analytics with Python May 27 2022 Advanced Data Science and Analytics with Python enables data scientists to continue developing their skills and apply them in business as well as academic settings. The subjects discussed in this book are complementary and a follow-up to the topics discussed in Data Science and Analytics with Python. The aim is to cover important advanced areas in data science using tools developed in Python such as SciKit-learn, Pandas, Numpy, Beautiful Soup, NLTK, NetworkX and others. The model development is supported by the use of frameworks such as Keras, TensorFlow and Core ML, as well as Swift for the development of iOS and MacOS applications. Features: Targets readers with a background in programming, who are interested in the tools used in data analytics and data science Uses Python throughout Presents tools, alongside solved examples, with steps that the reader can easily reproduce and adapt to their needs Focuses on the practical use of the tools rather than on lengthy explanations Provides the reader with the opportunity to use the book whenever needed rather than following a sequential path The book can be read independently from the previous volume and each of the chapters in this volume is sufficiently independent from the others, providing flexibility for the reader. Each of the topics addressed in the book tackles the data science workflow from a practical perspective, concentrating on the process and results obtained. The implementation and deployment of trained models are central to the book. Time series analysis, natural language processing, topic modelling, social network analysis, neural networks and deep learning are comprehensively covered. The book discusses the need to develop data products and addresses the subject of bringing models to their intended audiences – in this case, literally to the users' fingertips in the form of an iPhone app. About the Author Dr. Jesús Rogel-Salazar is a lead data scientist in the field, working for companies such as Tympha Health Technologies, Barclays, AKQA, IBM Data Science Studio and Dow Jones. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK.

Advanced Science and Technology of Sintering Feb 21 2022 This volume entitled Advanced Science and Technology of Sintering, contains the edited Proceedings of the Ninth World Round Table Conference on Sintering (IX WRTCS), held in Belgrade, Yugoslavia, September 1-4 1998. The gathering was one in a series of World Round Table Conferences on Sintering organised every four years by the Serbian Academy of Sciences and Arts (SASA) and the International Institute for the Science of Sintering (IISS). The World Round Table Conferences on Sintering have been traditionally held in Yugoslavia. The first meeting was organised in Herceg Novi in 1969 and since then they have regularly gathered the scientific elite in the science of sintering. It is not by chance that, at these conferences, G. C. Kuczynski, G. V. Samsonov, R. Coble, Ya. E. Geguzin and other great names in this branch of science presented their latest results making great qualitative leaps in the its development. Belgrade hosted this conference for the first time. It was chosen as a reminder that 30 years ago it was the place where the International Team for Sintering was formed, further growing into the International Institute for the Science of Sintering. The IX WRTCS lasted four days. It included 156 participants from 17 countries who presented the results of their theoretical and experimental research in 130 papers in the form of plenary lectures, oral presentations and poster sections.

Innovations in Science and Mathematics Education Jun 23 2019 The uses of technology in education have kindled great interest in recent years. Currently, considerable resources are being expended to connect schools to the Internet, to purchase powerful (and increasingly affordable) computers, and on other implementations of educational technologies. However, the mere availability of powerful, globally-connected computers is not sufficient to insure that students will learn--particularly in subjects that pose considerable conceptual difficulties, such as in science and mathematics. The true challenge is not just to put the newest technologies in our schools, but to identify advanced ways to design and use these new technologies to advance learning. This book offers a "snapshot" of current work that is attempting to address this challenge. It provides valuable and timely information to science and mathematics educators, educational and cognitive researchers, instructional technologists and educational software developers, educational policymakers, and to scholars and students in these fields.

Advanced Soft Computing Techniques in Data Science, IoT and Cloud Computing Oct 08 2020 This book plays a significant role in improvising human life to a great extent. The new applications of soft computing can be regarded as an emerging field in computer science, automatic control engineering, medicine, biology application, natural environmental engineering, and pattern recognition. Now, the exemplar model for soft computing is human brain. The use of various techniques of soft computing is nowadays successfully implemented in many domestic, commercial, and industrial applications due to the low-cost and very high-performance digital processors and also the decline price of the memory chips. This is the main reason behind the wider expansion of soft computing techniques and its application areas. These computing methods also play a significant role in the design and optimization in diverse engineering disciplines. With the influence and the development of the Internet of things (IoT) concept, the need for using soft

computing techniques has become more significant than ever. In general, soft computing methods are closely similar to biological processes than traditional techniques, which are mostly based on formal logical systems, such as sentential logic and predicate logic, or rely heavily on computer-aided numerical analysis. Soft computing techniques are anticipated to complement each other. The aim of these techniques is to accept imprecision, uncertainties, and approximations to get a rapid solution. However, recent advancements in representation soft computing algorithms (fuzzy logic, evolutionary computation, machine learning, and probabilistic reasoning) generate a more intelligent and robust system providing a human interpretable, low-cost, approximate solution. Soft computing-based algorithms have demonstrated great performance to a variety of areas including multimedia retrieval, fault tolerance, system modelling, network architecture, Web semantics, big data analytics, time series, biomedical and health informatics, etc. Soft computing approaches such as genetic programming (GP), support vector machine-firefly algorithm (SVM-FFA), artificial neural network (ANN), and support vector machine-wavelet (SVM-Wavelet) have emerged as powerful computational models. These have also shown significant success in dealing with massive data analysis for large number of applications. All the researchers and practitioners will be highly benefited those who are working in field of computer engineering, medicine, biology application, signal processing, and mechanical engineering. This book is a good collection of state-of-the-art approaches for soft computing-based applications to various engineering fields. It is very beneficial for the new researchers and practitioners working in the field to quickly know the best performing methods. They would be able to compare different approaches and can carry forward their research in the most important area of research which has direct impact on betterment of the human life and health. This book is very useful because there is no book in the market which provides a good collection of state-of-the-art methods of soft computing-based models for multimedia retrieval, fault tolerance, system modelling, network architecture, Web semantics, big data analytics, time series, and biomedical and health informatics.

Advanced Chemistry Jun 03 2020 Carefully researched by the authors to bring the subject of chemistry up-to-date, this text provides complete coverage of the new A- and AS-level core specifications. The inclusion of objectives and questions make it suitable for self study.

Science and Technology of Polymers and Advanced Materials Dec 30 2019 This book summarizes the state of the art research presented at the Fourth International Conference on Frontiers of Polymers and Advanced Materials held in Cairo, Egypt in January 4-9, 1997. This conference follows the successful conferences held in Kuala Lumpur, Malaysia in 1995, in Jakarta, Indonesia in 1993 and in New Delhi, India in 1991. These conferences focussed on the most recent and important advances in a wide range of carefully chosen subject areas dealing with advanced materials, their science and technology and new business opportunities resulting from recent technological advances. As its predecessors, the conference held in Cairo was truly international with strong participation of 488 delegates representing 37 countries from the USA and Egypt, as well as Europe, South East Asia, Japan, South Africa and the Middle East. The conference was organized by the Egyptian Academy of

Scientific Research and Technology, The Arab Society of Materials Science and the State University of New York at Buffalo. The stated goals of the conference were: □ To highlight advances and new findings in the general area of polymers and advanced materials. □ To foster global collaboration between the USA, Egypt and other nations in the general field of polymers and advanced materials. □ To promote the development of scientific infrastructure in this field among the different participating countries, especially in the Middle East. □ To create a basis for future long-term scientific exchanges between the USA and Egypt, and/or other countries.

Communication Science Theory and Research Oct 27 2019 This volume provides a graduate-level introduction to communication science, including theory and scholarship for masters and PhD students as well as practicing scholars. The work defines communication, reviews its history, and provides a broad look at how communication research is conducted. It also includes chapters reviewing the most frequently addressed topics in communication science. This book presents an overview of theory in general and of communication theory in particular, while offering a broad look at topics in communication that promote understanding of the key issues in communication science for students and scholars new to communication research. The book takes a predominantly "communication science" approach but also situates this approach in the broader field of communication, and addresses how communication science is related to and different from such approaches as critical and cultural studies and rhetoric. As an overview of communication science that will serve as a reference work for scholars as well as a text for the introduction to communication graduate studies course, this volume is an essential resource for understanding and conducting scholarship in the communication discipline.

Advanced Zeolite Science and Applications Nov 28 2019 Zeolites and related microporous materials are used in oil processing and in the fine and petrochemical industries on a large scale. New applications of zeolites contribute to environmentally friendly processes and refined zeolites such as catalytic zeolite membranes and zeolites containing exhaust-pipe reactors are being introduced. Recent diversity in zeolite research has been fueled by the increase in number of microporous materials and the combination with interfacing science areas. The possibility to accommodate ions, large molecules or nanostructures in the crystalline matrix has been explored and the performance of electronic, acoustic and photonic modified response of the materials has been tested. This volume provides up-to-date information on new zeolite and related materials and composites, their applications, testing of new processes and techniques, and promising laboratory results as well. A vast amount of work from a fundamental aspect is incorporated. In particular, the combination of science and application offers useful information for readers interested in molecular sieves.

Advanced Statistical Methods in Data Science Feb 09 2021 This book gathers invited presentations from the 2nd Symposium of the ICSA- CANADA Chapter held at the University of Calgary from August 4-6, 2015. The aim of this Symposium was to promote advanced statistical methods in big-data sciences and to allow researchers to exchange ideas on statistics and data science and to embrace the

challenges and opportunities of statistics and data science in the modern world. It addresses diverse themes in advanced statistical analysis in big-data sciences, including methods for administrative data analysis, survival data analysis, missing data analysis, high-dimensional and genetic data analysis, longitudinal and functional data analysis, the design and analysis of studies with response-dependent and multi-phase designs, time series and robust statistics, statistical inference based on likelihood, empirical likelihood and estimating functions. The editorial group selected 14 high-quality presentations from this successful symposium and invited the presenters to prepare a full chapter for this book in order to disseminate the findings and promote further research collaborations in this area. This timely book offers new methods that impact advanced statistical model development in big-data sciences.

Advanced Materials Science and Engineering of Carbon Sep 06 2020 Carbon materials are exceptionally diverse in their preparation, structure, texture, and applications. In *Advanced Materials Science and Engineering of Carbon*, noted carbon scientist Michio Inagaki and his coauthors cover the most recent advances in carbon materials, including new techniques and processes, carbon materials synthesis, and up-to-date descriptions of current carbon-based materials, trends and applications. Beginning with the synthesis and preparation of nanocarbons, carbon nanotubes, and graphenes, the book then reviews recently developed carbonization techniques, such as templating, electrospinning, foaming, stress graphitization, and the formation of glass-like carbon. The last third of the book is devoted to applications, featuring coverage of carbon materials for energy storage, electrochemical capacitors, lithium-ion rechargeable batteries, and adsorptive storage of hydrogen and methane for environmental protection, photocatalysis, spilled oil recovery, and nuclear applications of isotropic high-density graphite. A progression from synthesis through modern carbonization techniques to applications gives you a thorough understanding of carbon materials. Covers a wide range of precursor materials, preparation techniques, and characteristics to inspire your own development of carbonization techniques, carbon materials and applications. Applications-oriented chapters include timely content on hot topics such as the engineering of carbon nanofibers and carbon materials for various energy-related applications.

Developmental Science Sep 30 2022 Noted as one of the most comprehensive textbooks in the field, *Developmental Science*, 6th Edition introduces readers to all of areas in developmental psychology: neuroscience, genetics, perception, cognition, language, emotion, self, and social interaction. Each of the world-renowned contributors masterfully introduces the history and systems, methodologies, and measurement and analytic techniques used to understand the area of human development under review. The relevance of the field is illustrated through engaging applications in each chapter. As a whole, this highly-respected text illuminates substantive phenomena in developmental science, its applications across the life span, and its relevance to everyday life. Each chapter has been substantially revised for this new edition to reflect the current state of the field and the new edition is now accompanied by a website. Students and instructors will find chapter outlines, topics to think about before reading the chapters, a glossary,

and suggested readings with active reference links on the website. Electronic access to the text's figures and tables, suggestions for classroom assignments and/or discussion, and a test bank with multiple-choice, short answer, and essay questions is limited to instructors only. Two new chapters highlight many modern developments. Each chapter features an introduction, up-to-date overviews of the field, summary and conclusion, and numerous classical and contemporary references. The book opens with an overview of developmental science -- its history and theory, the cultural orientation to thinking about human development, and the manner in which empirical research is designed, conducted, and analyzed. Part 2 focuses on the field's major substantive areas: neuroscience and genetics, physical and motor skills, perception, and cognitive and language development. Part 3 examines personality and social development within the context of the various relationships and situations in which developing individuals function and by which they are shaped. The book concludes with a new chapter on the latest applications of developmental science. Ways in which developmental thinking and research affect and are affected by practice and social policy are particularly emphasized. Used primarily as a graduate level text for courses on developmental psychology/science, life span, and/or human development, the book can also be used at the advanced undergraduate level. Researchers interested in staying abreast of the latest developments in the field also appreciate the book's comprehensive nature.

[Advanced Biology](#) Jul 17 2021 Written by an experienced author and teacher of students with a wide range of abilities, Advanced Biology will spark interest and motivate A-Level students.

[Advanced Materials in Japan](#) Apr 01 2020 Please note this is a Short Discount publication. Advanced Materials in Japan: Source Book 1992 offers the reader news of all the developments which have taken place over the last year. The Source Book is divided into chapters based on the divisions of news in New Materials in Japan – Metals & Alloys; Ceramics; Composites; Electronic & Optoelectronic Materials; Magnetic Materials; Plastics; Materials & The Environment; Medical Materials and Textiles, each introduced by an expert in these particular areas and discussing the implications of the information to non-Japanese industry. In addition, the Source Book includes a chapter devoted to business/market information – company mergers acquisitions etc., together with an overview of the Japanese approach to advanced materials and highlighting all major research initiatives, research programmes etc.

[Understanding Computer Science for Advanced Level](#) Dec 22 2021 Suitable for all A-Level Computer Science syllabuses and for BTEC(N) Computing courses, this text also provides background reading for those studying for GNVQ Advanced Information Technology. It has been revised in line with the 1997 A-Level syllabuses, and now includes chapter summaries.

[Handbook of Research on Automated Feature Engineering and Advanced Applications in Data Science](#) Nov 20 2021 In today's digital world, the huge amount of data being generated is unstructured, messy, and chaotic in nature. Dealing with such data, and attempting to unfold the meaningful information, can be a challenging task. Feature engineering is a process to transform such data into a

suitable form that better assists with interpretation and visualization. Through this method, the transformed data is more transparent to the machine learning models, which in turn causes better prediction and analysis of results. Data science is crucial for the data scientist to assess the trade-offs of their decisions regarding the effectiveness of the machine learning model implemented. Investigating the demand in this area today and in the future is a necessity. The Handbook of Research on Automated Feature Engineering and Advanced Applications in Data Science provides an in-depth analysis on both the theoretical and the latest empirical research findings on how features can be extracted and transformed from raw data. The chapters will introduce feature engineering and the recent concepts, methods, and applications with the use of various data types, as well as examine the latest machine learning applications on the data. While highlighting topics such as detection, tracking, selection techniques, and prediction models using data science, this book is ideally intended for research scholars, big data scientists, project developers, data analysts, and computer scientists along with practitioners, researchers, academicians, and students interested in feature engineering and its impact on data.

Advanced Studies in Classification and Data Science Jul 05 2020 This edited volume focuses on the latest developments in classification and data science and covers a wide range of topics in the context of data analysis and related areas, e.g. the analysis of complex data, analysis of qualitative data, methods for high-dimensional data, dimensionality reduction, data visualization, multivariate statistical methods, and various applications to real data in the social sciences, medical sciences, and other disciplines. In addition to sharing theoretical and methodological findings, the book shows how to apply the proposed methods to a variety of problems -- e.g. in consumer behavior, decision-making, marketing data and social network structures. Both methodological aspects and applications to a wide range of areas such as economics, behavioral science, marketing science, management science and the social sciences are covered. The book is chiefly intended for researchers and practitioners who are interested in the latest developments and practical applications in these fields, as well as applied statisticians and data analysts. Its combination of methodological advances with a wide range of real-world applications gathered from several fields makes it of unique value in helping readers solve their research problems.--

The Science of Gymnastics Apr 13 2021 The Science of Gymnastics provides the most comprehensive and accessible introduction available to the fundamental physiological, biomechanical and psychological principles underpinning performance in artistic gymnastics. The second edition introduces three new sections: applied coaching, motor learning and injury prevention and safety, and features contributions from leading international sport scientists and gymnastics coaches and instructors. With case studies and review questions included in each chapter, the book examines every key aspect of gymnastic training and performance, including: physiological assessment diet and nutrition energetics kinetics and kinematics spatial orientation and motor control career transitions mental skills training and perception injury assessment and prevention, with clinical cases advanced case studies in rotations, vault approach and elastic

technologies in gymnastics. A fully dedicated website provides a complete set of lecture material, including ready-to-use animated slides related to each chapter, and the answers to all review questions in the book. The book represents an important link between scientific theory and performance. As such, The Science of Gymnastics is essential reading for any student, researcher or coach with an interest in gymnastics, and useful applied reading for any student of sport science or sports coaching.

Becoming an Advanced Healthcare Practitioner Mar 01 2020 "This text is an essential purchase for healthcare practitioners who want to take the initiative and make the changes that will advance their careers."--BOOK JACKET.

Advanced Studies in Behaviormetrics and Data Science Mar 25 2022 This book focuses on the latest developments in behaviormetrics and data science, covering a wide range of topics in data analysis and related areas of data science, including analysis of complex data, analysis of qualitative data, methods for high-dimensional data, dimensionality reduction, visualization of such data, multivariate statistical methods, analysis of asymmetric relational data, and various applications to real data. In addition to theoretical and methodological results, it also shows how to apply the proposed methods to a variety of problems, for example in consumer behavior, decision making, marketing data, and social network structures. Moreover, it discusses methodological aspects and applications in a wide range of areas, such as behaviormetrics; behavioral science; psychology; and marketing, management and social sciences. Combining methodological advances with real-world applications collected from a variety of research fields, the book is a valuable resource for researchers and practitioners, as well as for applied statisticians and data analysts.

Emerging Research in Science and Engineering Based on Advanced Experimental and Computational Strategies Mar 13 2021 In this book, the authors discuss some of the main challenges and new opportunities in science and engineering research, which involve combining computational and experimental approaches as a promising strategy for arriving at new insights into composition–structure–property relations, even at the nanoscale. From a practical standpoint, the authors show that significant improvements in the material/biomolecular foresight by design, including a fundamental understanding of their physical and chemical properties, are vital and will undoubtedly help us to reach a new technological level in the future.

Advanced Artificial Intelligence Dec 10 2020

Advanced Dairy Science and Technology Oct 20 2021 This important and comprehensive book covers, in depth, the most important recent advances in dairy technology. Providing core commercially important information for the dairy industry, the editors, both internationally known for their work in this area, have drawn together an impressive and authoritative list of contributing authors. Topics covered include: heat treatment, membrane processing, hygiene by design, application of HACCP, automation, safety and quality, modern laboratory practices and analysis, and environmental aspects. This book is an essential purchase for all dairy technologists worldwide, whether in academic research and teaching, or within food companies.

Advanced Personal Training Apr 25 2022 Effective fitness instruction and training programme design require an exercise specialist trainer to combine professional experience with strategies underpinned by scientific evidence. This is the first comprehensive fitness instruction and training programme design resource to explore the evidence-base of effective programme design, drawing on cutting-edge scientific research to identify optimum training methods and dispel some common myths around fitness training. Putting clients' training goals at the centre of the process by focusing on their most common objectives – such as improving general health, enhancing cardiorespiratory fitness, decreasing body fat and increasing muscle mass – this book helps the reader develop a better understanding of the physiological principles at the core of successful programme design. Simple to navigate and full of helpful features – including applied case studies, example training programmes and guides to further reading – it covers a variety of key topics such as: pre-exercise health screening lifestyle and fitness assessment nutrition cardiorespiratory (endurance), resistance and core training recovery from exercise. An essential text for fitness instructors, personal trainers and sport and exercise students, this book provides an invaluable resource for fitness courses, exercise science degree programmes and continued professional development for exercise professionals.

Handbook of Advanced Ceramics Jan 11 2021 A two-volume reference set for all ceramicists, both in research and working in industry The only definitive reference covering the entire field of advanced ceramics from fundamental science and processing to application Contributions from over 50 leading researchers from around the world This new Handbook will be an essential resource for ceramicists. It includes contributions from leading researchers around the world, and includes sections on: Basic Science of Advanced Ceramic, Functional Ceramics (electro-ceramics and optoelectro-ceramics) and engineering ceramics. Contributions from over 50 leading researchers from around the world

Physics May 03 2020 Bath Advanced Science: Physics provides in-depth coverage of senior physics. The text's exciting design provides clear access to well-illustrated material, making it suitable for a wide range of students.

Advanced Mathematics for Engineering and Science Jan 29 2020 The book comprises ten chapters, Each chapter contains several solved problems clarifying the introduced concepts. Some of the examples are taken from the recent literature and serve to illustrate the applications in various fields of engineering and science. At the end of each chapter, there are assignment problems with two levels of difficulty. A list of references is provided at the end of the book. This book is the product of a close collaboration between two mathematicians and an engineer. The engineer has been helpful in pinpointing the problems which engineering students encounter in books written by mathematicians. Contents: Review of Calculus and Ordinary Differential Equations; Series Solutions and Special Functions; Complex Variables; Vector and Tensor Analysis; Partial Differential Equations I; Partial Differential Equations II; Numerical Methods; Numerical Solution of Partial Differential Equations; Calculus of Variations; Special Topics. Readership: Upper level undergraduates, graduate students and researchers in mathematical modeling, mathematical physics and numerical

&computational mathematics.

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